

AIR-PRUNING TRAY/CONTAINER MATRIX TRANSFER AND TRANSPLANTING SYSTEMS AND METHODS

ABSTRACT

Methods and equipment for transferring and transplanting a set of plants/seedlings/plugs simultaneously at a time in a matrix formation in which the plants/seedlings/plugs are grown in a tray/container consisting of a plurality of individual plant/seedling/plug cells/pots. The methods include indexing trays/containers with manual, mechanical, pneumatic, hydraulic, and/or electrical systems that are operative to induce plants to the planting area or receptacle such as flats, pots, containers, or the field. The tray/container serves as a plant supply cartridge/cassette for air pruning of plant/seedling/plug roots for accelerated growth and for proper removing of the plants/seedlings/plugs from the open cell/pot bottom or top for matrix transferring/transplanting. The operations can include indexing table movements, dibbling of growing media, pushing or pulling of plants/seedlings/plugs from tray/container cells/pots, conveying of plants and flats/pots/trays/containers to achieve the plant transferring/transplanting in several matrix patterns adaptable to the dry or paddy field, and greenhouse utilizations.